

L4 ANSWER 3 OF 11 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1996:412038 BIOSIS
DOCUMENT NUMBER: PREV199699134394
TITLE: Conditions favoring RNA polymerase I transcription in permeabilized cells.
AUTHOR(S): Masson, C.; Bouniol, C.; Fomproix, N.; Szollosi, M. S.; Debey, P.; Hernandez-Verdun, D. (1)
CORPORATE SOURCE: (1) Inst. Jacques-Monod, 2 Place Jussieu, 75251 Paris Cedex 05 France
SOURCE: Experimental Cell Research, (1996) Vol. 226, No. 1, pp. 114-125.
ISSN: 0014-4827.
DOCUMENT TYPE: Article
LANGUAGE: English

AB RNA synthesis can be detected in nuclei using modified RNA precursors (Br-UTP) introduced in permeabilized cells. Surprisingly, RNA pol I transcripts are detected only after inhibition of RNA pol II or salt enhancement of RNA pol I activity. By modifying a previously reported protocol, we found that RNA pol I transcripts can be detected selectively or simultaneously with RNA pol II transcripts without any drug treatment. Removing glycerol from the permeabilization and transcription buffers and improving the permeabilization using Triton X-100 revealed RNA pol I transcription in two cell lines (mammalian and *Xenopus*) and in isolated mouse oocytes. The transcripts were most probably rRNA because they were detected in the nucleoli, digested by RNase, sensitive to actinomycin D, and resistant to α -amanitin. We found by microinjection of the Br-UTP precursors in living cells that low ionic strength allows the detection of RNA pol I transcription. Electron microscopy of mouse oocytes showed that the "looseness" of the nucleolar organization is associated with the detection of the RNA pol I transcription; this detection does not necessarily need nucleolar disorganization. The data obtained with both **permeabilized cells** and microinjections of RNA precursors in the absence of **glycerol** support the hypothesis that the degree of hydration of the **cell** plays a role in RNA pol I transcription.

Q14 583.E9